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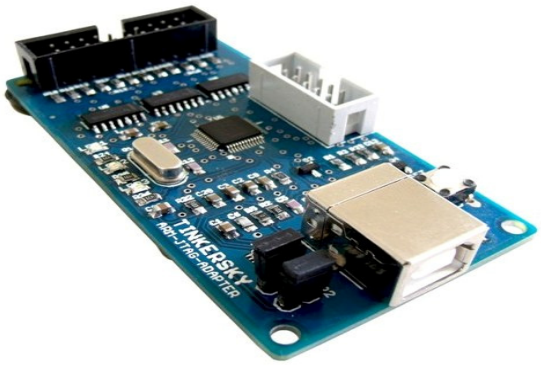
TINKERSKY ELECTRONICS PVT LTD

ARM-JTAG ADAPTER

(CoLinkEx)

USER MANUAL



This is user guide for ARM-JTAG Adapter by TinkerSky Electronics (P) Ltd. And also one can use as quick reference to learn how to configure and make use of ARM-JTAG Adapter to program ARM-Cortex M series of Microcontrollers.

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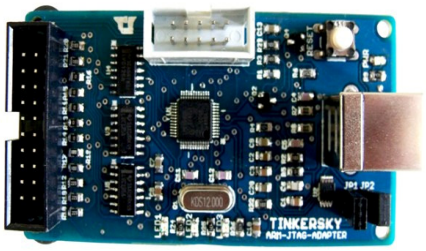
1. Overview-ARM-JTAG Adapter (CoLinkEx)

1.1 Introduction and Features

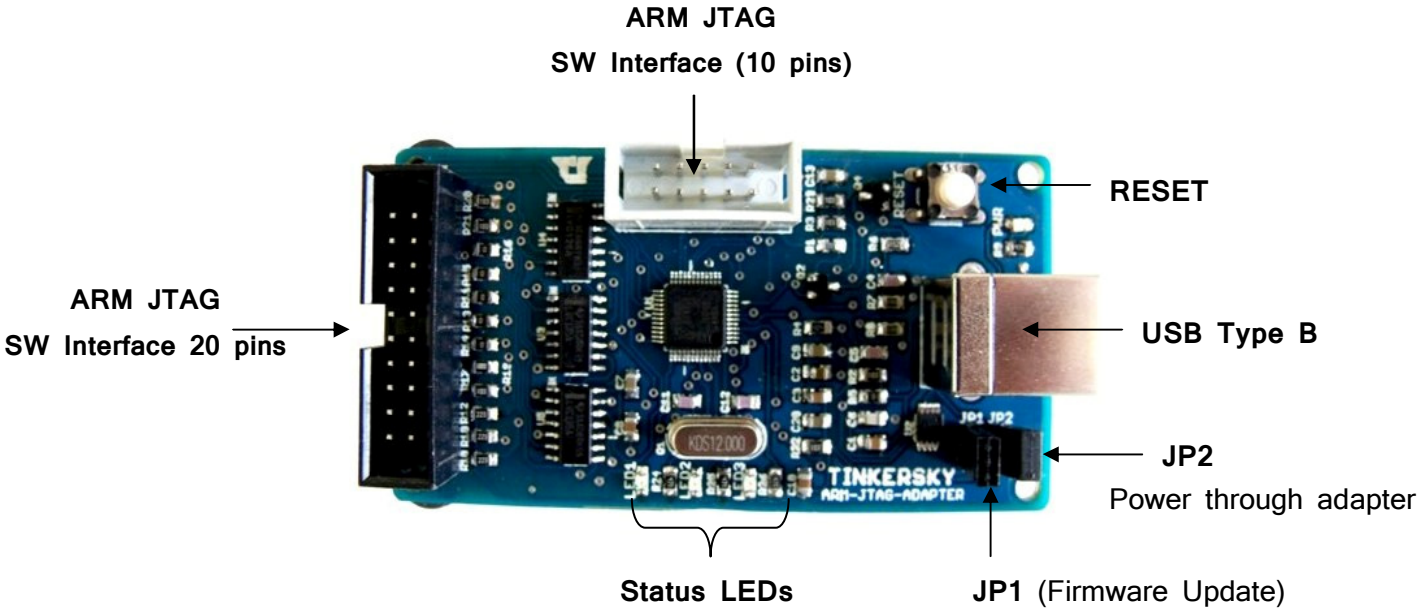
CoLinkEx is a hardware debugging adapter which supports SW debugging and supports ARM Cortex M devices, it supports debugging in CooCox software and Keil RealView MDK.



Features:

- Supports Cortex-M devices
- Supports SW debugging
- Supports JTAG debugging
- Supports CoFlash, CoIDE, MDK, IAR

2. Hardware Introduction



2.1 SW/JTAG Debug Interface

ARM-JTAG Adapter (based on CoLinkEx Firmware) use ARM standard 20 pin, 2.54mm SW/JTAG Interface. Most target board support this interface. The 10pin 2.54mm/2.0mm interface is also supported.

2.2 USB Port Type-B

ARM-JTAG Adapter communicate and get power from PC through this USB Type-B hub. When you Installed JP2, ARM-JTAG Adapter will give the power supply to the target board.

2.3 LED

ARM-JTAG Adapter provide 4 LEDs, They show the power status, error, connection, busy status of adapter.

3. Getting Started

3.1 Version Information

- Firmware: 0.4
- Driver: 1.2.0 (or 1.2.1)
- Software:
  - CoIDE 1.4.0 or higher
  - CoFlash 1.4.0 or higher
  - MDK 4.03 (or higher) plus CoMDKPlugin 1.4.0 or higher

3.2 Hardware Source Requirement

When you use CoLinkEx, The PC is required to use the following sources:

- CPU: 2.0GHz (at least)
- Memory: 512M (at least)
- USB Interface: 1 (at least)
- Serial Line interface use COM1
- Operation System: Windows XP/Windows Vista/Win 7
- Software need: CoIDE, MDK, IAR (with CoMDKPlugin, CoIARPlugin)

3.3 Preperation

- Install CoIDE or the corresponding Plug-in
- Install the driver
- Jumpers setting: JP1, JP2 both OFF.
- USB Connection: Using USB cable, one end plugged into the USB port on the ARM-JTAG Adapter (CoLinkEx), the other end connected to PC.

4. Adapter Installation and Use

4.1 Installation

To install ARM-JTAG Adapter, you need to perform few steps:

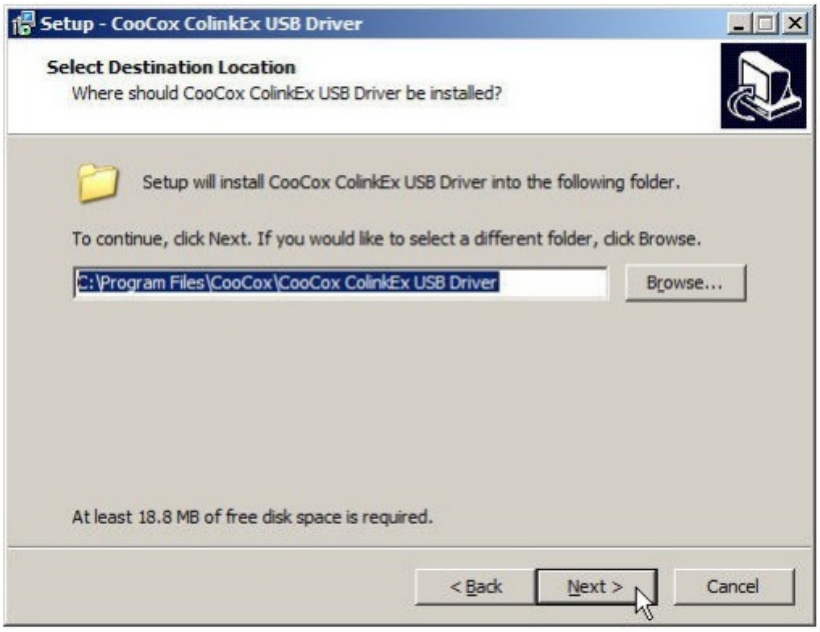
- Install the Driver of CoLinkEx
- Connect CoLinkEx to PC
- Install plug-in for your IDE, if necessary.

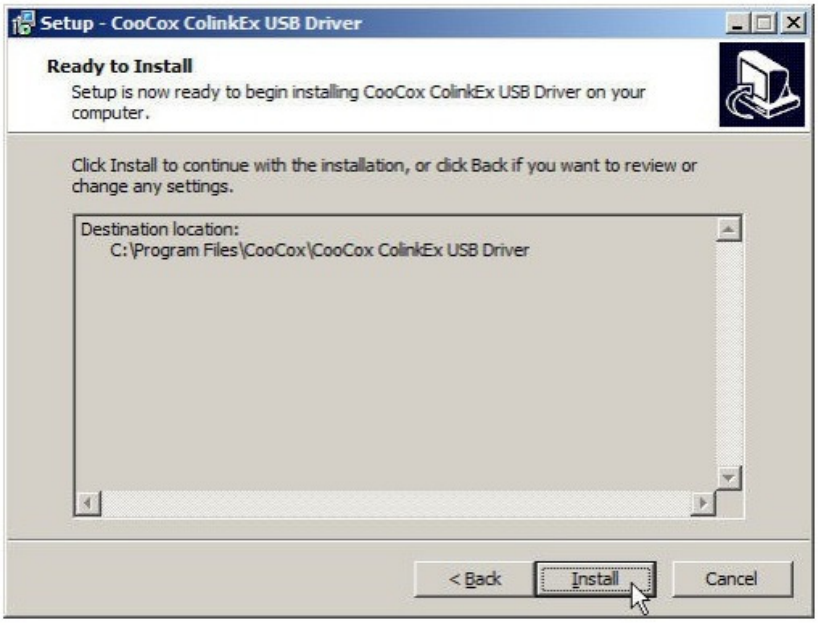
4.2 Install the Driver of CoLinkEx

To use ARM-JTAG Adapter you need to install **CoLinkExUSBDriver** according to your windows OS. The latest drivers can be downloaded from http://www.coocox.org/Colinkex.htm

- If you are using 32-bit windows operating system for example: Windows XP, Winodws Vista 32-bit, Winodws 7 32-bit
  Installation file: Tools\ColinkEx_Driver\CoLinkExUsbDriver-1.1.0.exe
  Do the operations shown in the following picture.

Setup - CooCox ColinkEx USB Driver
Welcome to the CooCox ColinkEx USB Driver Setup Wizard
This will install CooCox ColinkEx USB Driver version 1.2.0 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel


Setup - CooCox ColinkEx USB Driver
Select Destination Location
Where should CooCox ColinkEx USB Driver be installed?
Setup will install CooCox ColinkEx USB Driver into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files\CooCox\CooCox ColinkEx USB Driver
Browse...
At least 18.8 MB of free disk space is required.
< Back
Next >
Cancel


Setup - CooCox ColinkEx USB Driver
Ready to Install
Setup is now ready to begin installing CooCox ColinkEx USB Driver on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Program Files\CooCox\CooCox ColinkEx USB Driver
< Back
Install
Cancel

Setup - CooCox ColinkEx USB Driver
Completing the CooCox ColinkEx USB Driver Setup Wizard
Setup has finished installing CooCox ColinkEx USB Driver on your computer.
Click Finish to exit Setup.
Finish

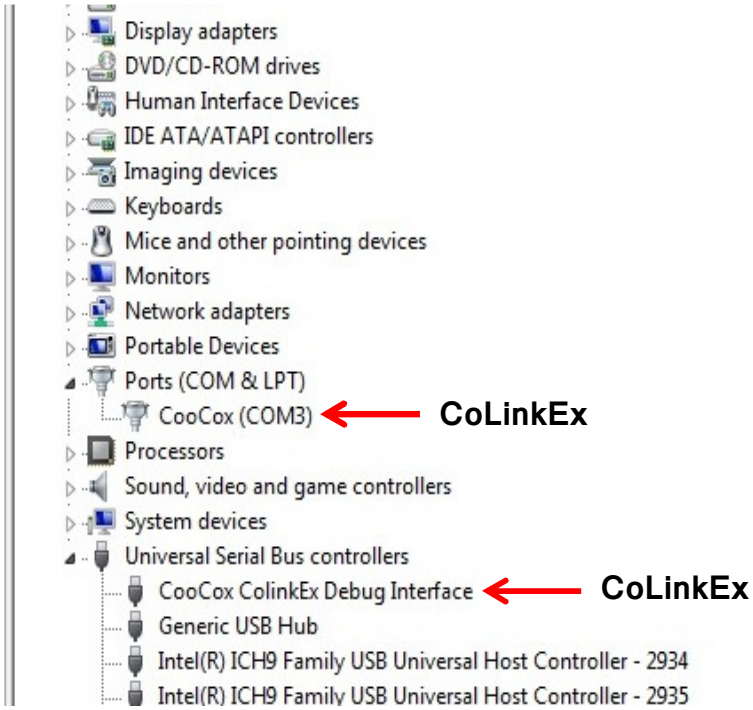
- If you are using Windows Vista 64bit or Windows 7 64bit. Installation file: Tools\ColinkEx_Driver \ColinkExUsbDriver-1.1.1.exe
  Please connect CoLinkEx to the computer before you start installing this driver.

Setup - CooCox ColinkEx USB Driver
Welcome to the CooCox ColinkEx USB Driver Setup Wizard
This will install CooCox ColinkEx USB Driver version 1.2.1 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

5. Connect ARM-JTAG Adapter to PC

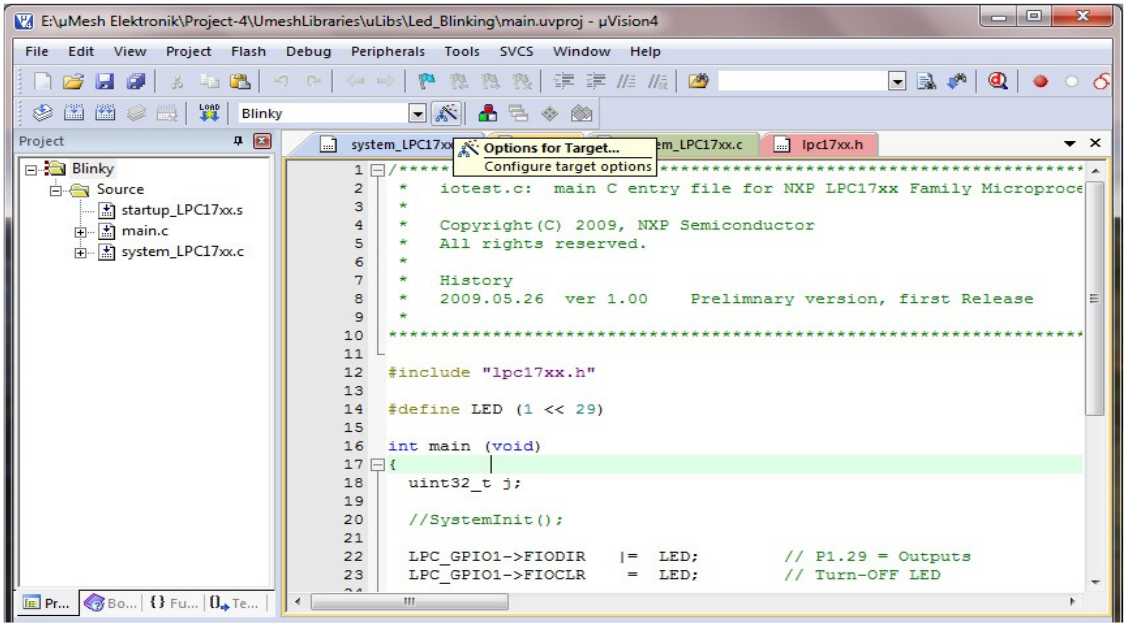
When you connect ARM-JTAG Adapter to PC, it will ask you to install the driver to system for the new detected devices. Then you may need to specify the path for CoLinkEx Drivers.

After you installed the driver, in the device manager, you will found CooCox（COM x) under Port and CooCox CoLinkEx Debug Interface under USB Controller.
If there is a "**?**" in front of the two devices, it means that the driver have not been installed to the system or install failed; if there isn't CooCox Port, it means that your CoLinkEx firmware and driver is old version.

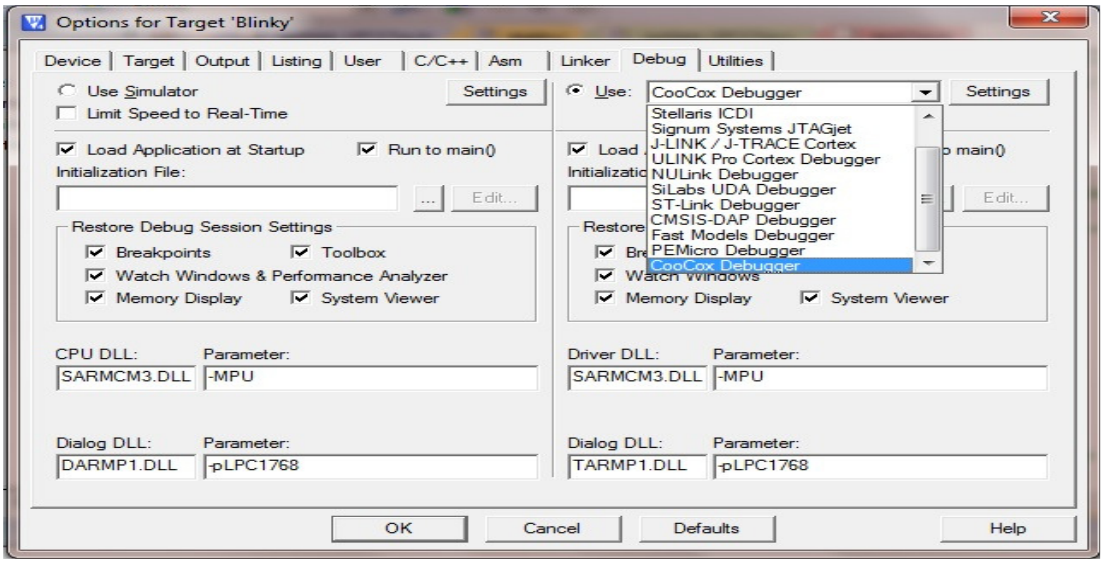


6. How to use ARM-JTAG Adapter in Keil-MDK (µVision4)

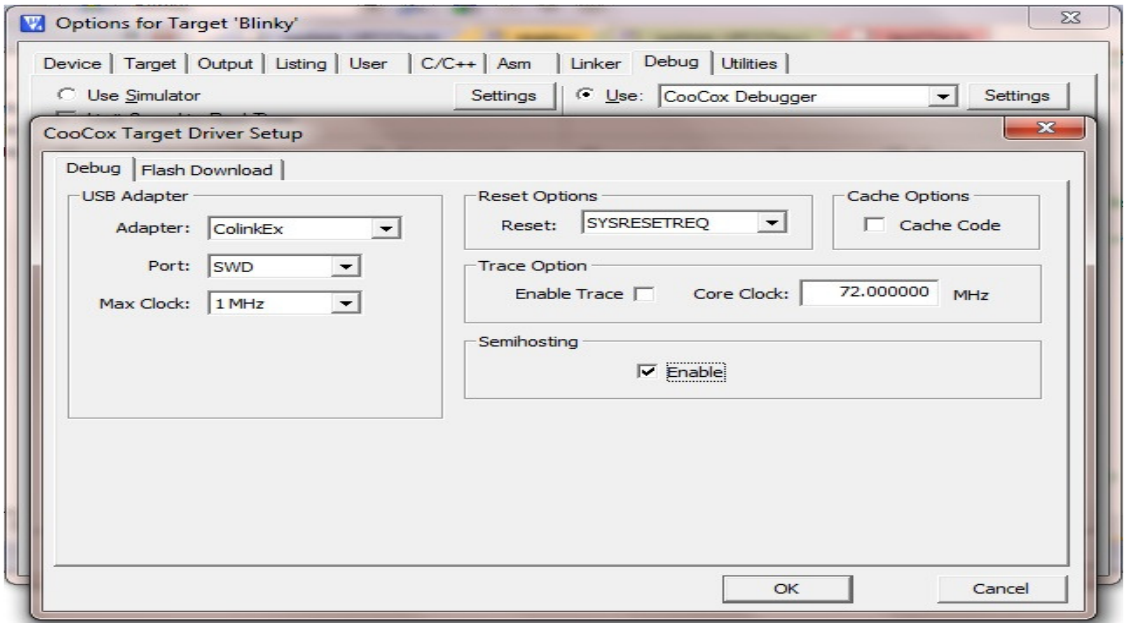
1. Open MDK Project, Click **Target options** to configure the project:



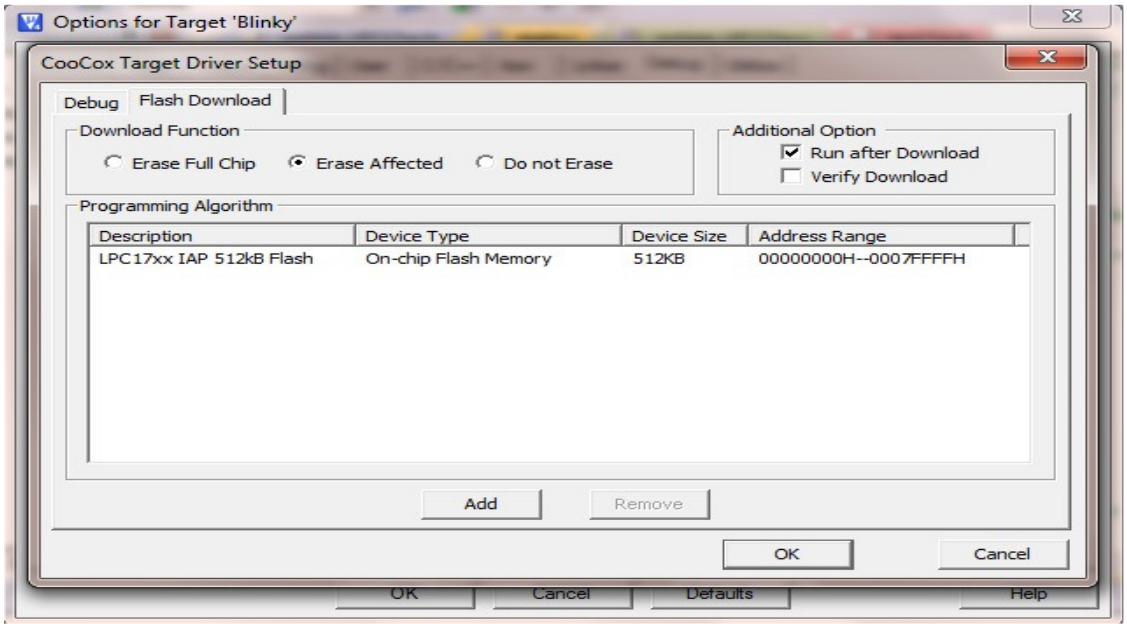
2. "**Debug -> Use**", open the configuration dialog and selects "**CooCox Debugger**".



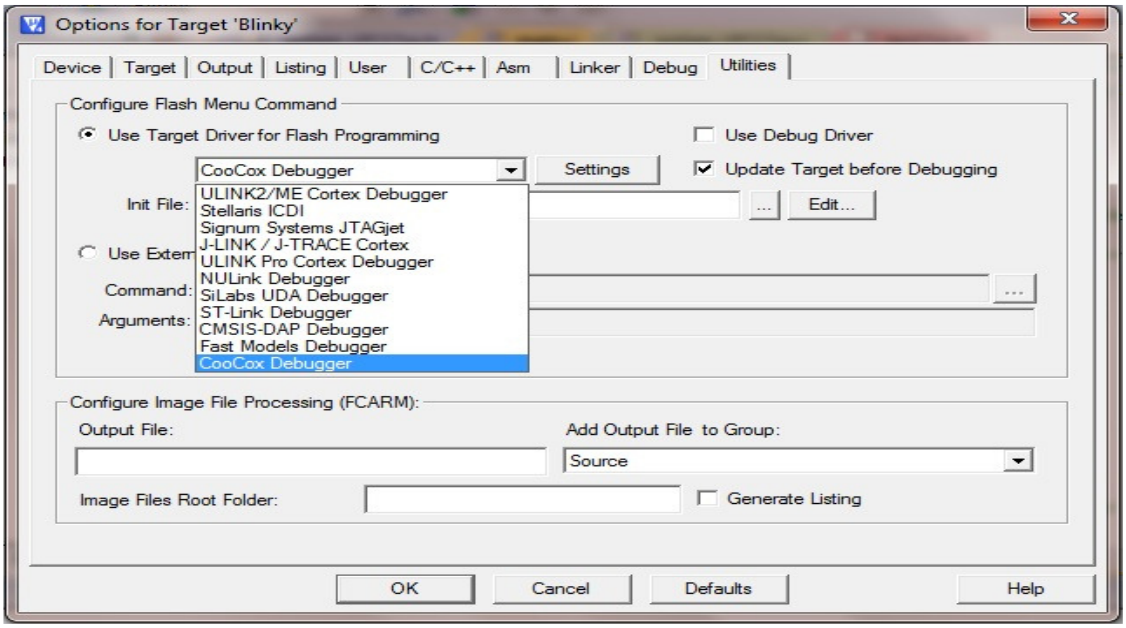
3. Click "**Settings**", and then select the "**CoLinkEx**" as the adapter. You can also modify the Port, Max Clock for the adapter, Reset, Cache, Trace or Semihosting Options, etc.



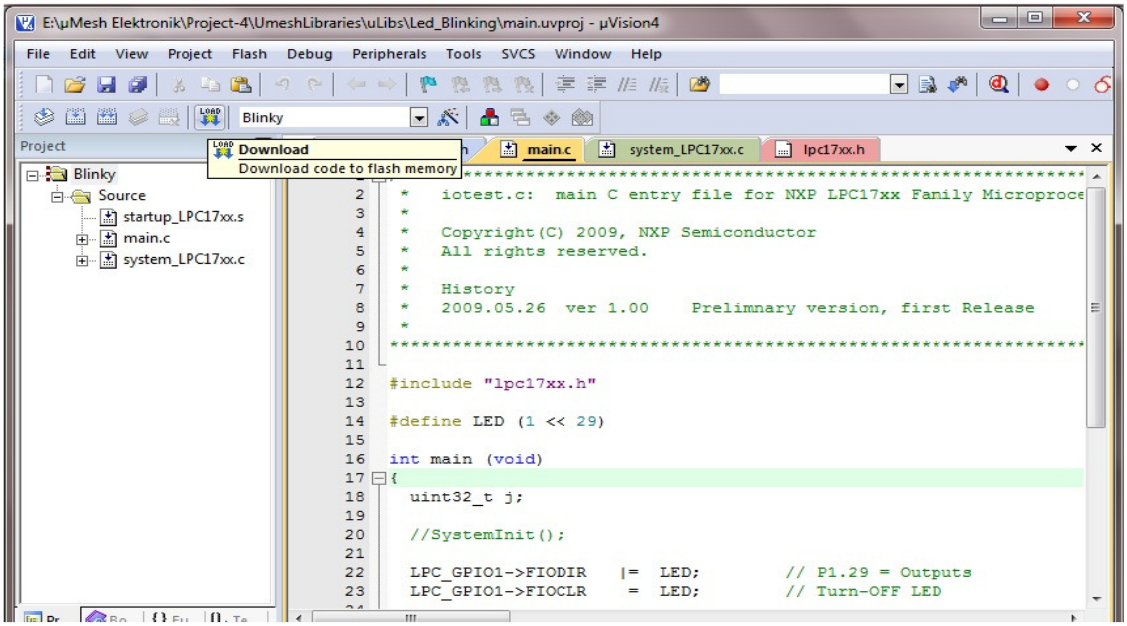
4. Switch to **Flash Download** to set the flash options and the flash algorithm.



5. Then, if you debug your program in flash, you also have to configure "**Utilities**" by selecting "**CooCox Debugger**" for Flash Programming.

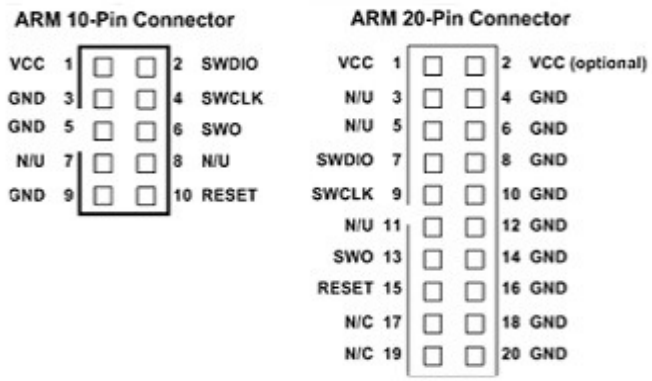


6. Now you can use CoLinkEx to **download and debug** in MDK.



7 How to use ARM-JTAG Adapter to Debug other devices

7.1 ARM SW/JTAG Interface



In **ARM-JTAG Adapter** ARM 20 PIN SW/JTAG Interface is compatible with the standard ARM 10 PIN SW/JTAG Interface.

NOTE:

- If you don't use ARM-JTAG Adapter to supply voltage to target board, VCC can be not connected.
- If you don't use Trace function, SWO can not be connected.
- In SW debug, SWDIO, SWCLK, RESET, GND are necessary. In JTAG debug, all the above pins except VCC are necessary.

Information

Revision History

Version: v1.0

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